

THAT WHICH IS CLAIMED IS:

1.           A multiple-ply bag comprising:
  - a tubular multi-wall structure having upper and lower ends, the upper and lower ends being sealable;
  - front and back walls joined at opposite bag sides by at least two side gussets running the length of the bag; and,
  - an outer ply layer of said multi-wall bag having a base layer of a kraft paper, a layer of polyethylene applied to an exterior side of said kraft layer, and, an outermost layer of a biaxially oriented thermoplastic polymer applied to the polyethylene layer, said outermost layer further defining a printable surface.
  
- 2            An improvement in a multi-wall bag having at least an inner ply and an outer ply, said improvement comprising said outermost ply having a fiber layer of an about 40 to an about 60 pound basis weight paper, an exterior side of the paper having about a 5 to about a 15 pound layer of polyethylene applied to said paper, said polyethylene layer being in further contact with an outermost layer of an oriented thermoplastic polymer selected from the group consisting of a polypropylene, a polyester, or a combination thereof.
  
3.           A multiple-ply bag comprising:
  - a multi-wall structure having at least two ply layers, said multi-wall structure further having upper and lower ends being sealable;
  - front and back walls joined at opposite back sides by at least gussets running a length of the bag;
  - an exterior ply of said at least two ply layers comprising a paper substrate;
  - an extrusion coating of polyethylene on a first side of said paper substrate; and,

a film layer applied to said polyethylene coating, said film layer defining a non-absorptive printing surface which is selected from the group consisting of biaxially oriented polypropylene films, biaxially oriented polyethylene films, metallized films of biaxially oriented polypropylene, and metallized films of biaxially oriented polyester.

4. A multiple-ply bag comprising:

an inner ply layer comprising a paper having a laminated surface, the laminated surface defining an innermost surface of the multiple-ply bag;

a second ply layer of an uncoated paper adjacent an uncoated surface of said inner ply;

a third ply layer of an uncoated paper positioned between said second ply layer and a fourth ply layer, said fourth ply layer defining an exterior ply of said multi-ply bag, said fourth ply layer further defining a coating of a 5 to 15 lb. weight/3000 sq. ft. of polyethylene and a film layer applied to a surface of said polyethylene, said film layer comprising a biaxially oriented film selected from the group consisting of a biaxially oriented polypropylene film, a biaxially oriented polyethylene film, a metallized film of biaxially oriented polypropylene, and a metallized film of biaxially oriented polyester;

wherein said multiple-ply bag has increased burst resistance and improved tear strength than a comparable four-ply bag without said film layer.

5. The multiple-ply bag according to claim 4 wherein said fourth ply layer comprises a paper having a fiber content of about a 35 to about a 90 lb. basis weight.

6. The multiple-ply bag according to claim 4 wherein said fourth ply has a film layer selected from the group consisting of metallized films of

biaxially oriented polypropylene and metallized films of biaxially oriented polyester, said multiple-ply bag further having a WVTR of about 0.01 g/100 in.<sup>2</sup>/24 hrs. or less.

7. The multiple-ply bag according to claim 4 wherein at least one of said second and said third ply layers is provided by a converter kraft paper.
8. The multiple-ply bag according to claim 4 wherein said second ply and said third ply are provided by a converter kraft paper.